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Department of Energy

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Gentlemen:

This letter provides the rationale supporting locations of ten remaining surficial soil samples outlined in the OU4 RFI/RI Work Plan. This issue was discussed during the OU4 status meeting held on Thursday, March 25, 1993, at Interlocken. The approved OU4 RFI/RI Phase I Work Plan states that approximately 10 discrete surficial soil samples will be collected based on results of the FIDLER radiation survey. The FIDLER survey completed within the OU4 indicated no significantly elevated radiological readings. The radiological survey results do not warrant collection of all 10 surficial soil samples at anomalous readings. It was discussed at the meeting to redistribute these surficial soil samples at various locations including; radiological survey anomalies, ground water seep locations, and at surficial soil data gaps for the baseline risk assessment. The rationale for redistributing samples into these three categories is described in the following paragraphs.

FIDLER Survey Locations

A review of the FIDLER radiological survey results indicates locations with readings which exceeded 2500 counts per minute (cpm). Three locations with the highest FIDLER readings have been identified and are recommended for sampling. We propose collecting three surficial soil samples at the following grid locations, as shown in the attached figure:

Surficial soil sample #27 will be collected at grid node T16. Grid node T16 is located near the southwest corner of Pond 207A. The FIDLER reading at this grid node was 3364 cpm on January 18, 1993.

Surficial soil sample #28 will be collected at grid node M21. Grid node M21 is located near the soil/asphalt interface on the northeast berm of Pond 207A. The FIDLER reading at this grid node was 2443 cpm on March 26, 1993.

Surficial soil sample #29 will be collected at grid node V20. Grid node V20 is located near the southeast corner of Pond 207A in an asphalt covered location. The FIDLER reading at this grid node was 2448 cpm on March 26, 1993.

Ground Water Seep Locations

Ground water seeps have been identified on the hillside north of the ponds prior to their construction and throughout their existence. It is proposed that additional surficial soil samples be collected in seep locations to determine if residual radionuclides or heavy metals are present at these locations.

Ground water seeps were mapped on the hillside in Fall 1992 and their approximate dimension is shown on the attached figure. A site walk during March 1993 confirmed the location of seeps shown on the figure, but indicated the dimensions may be larger during this time of year. Based on this site walk and the locations of OU4 boreholes and random surficial soil samples on the hillside, the following surficial soil samples are proposed.

Surficial soil sample #30 will be collected in the elongated seep located north of and between Ponds 207A and Pond 207B-North. The seep is located downgradient of Sump 2 which was constructed as an outlet for drain tiles underlying the Pond 207A. A sample collected from this area will aid in assessing residual contamination from previous sump activity.

Surficial soil sample #31 will be collected in the large oval shaped seep located north of Ponds 207A and 207B-North. The area has been devoid of vegatation for many years. Random surficial soil sample number 13 was collected in the southeast portion of this seep. Another surficial soil sample is proposed in the west-central part of the seep in the vicinity of Trench 2.

Surficial soil sample #32 will be collected in the triangle shaped seep located north of and between ponds 207C and 207A. The seep is in the location where the Building 779 footing drain daylights.

A surficial soil sample will be collected in the small oval shaped seep located north of Pond 207A. During the March site walk, the seep was observed to be significantly larger than in Fall 1992. The seep was observed to extend approximately 100 feet west of the location shown on the attached figure.

Data Gaps for Baseline Risk Assessment

After reviewing the location of boreholes, random surficial soil samples, and environmental evaluation soil sample locations, a few potential surfical soil data gaps were identified in the Buffer Zone. Locations were proposed based only on the criteria of spatial distribution. The following three proposed surficial soil sample locations are described as follows.

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Proposed surficial soil sample #34 is in the Buffer Zone in an area north of Pond 207C, midway between the PA fencing and the buffer zone access road.

Surficial soil sample #35 is in the Buffer Zone approximately 125 ft southwest of Borehole 40593. The sample is located approximately midway between the piezometers of Piezometer array 3 and Borehole 40593.

Surficial soil sample #36 is in the Buffer Zone approximately 200 ft east-southeast of Borehole 40393. The location is located midway between the Buffer Zone access road and the PA security fencing.

Please review the rationale for the locations of these 10 discrete surficial soil samples, and provide us with your comments at your earliest convenience. If these locations are acceptable, samples could be collected as early as the week of April 26, 1993.

Please contact Scott R. Surovchak at 966-3551 if you should have any questions or comments.

Sincerely,

Frazer R. Lockhart
SPRP Manager
Environmental Restoration Division

Enclosure

cc w/Enclosure:
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